

第一阶段：feature location训练集结果

Strust2:

t1 = [0.9, 0.200000000000000015, 0.100000000000000014, 0.9, 0.50000000000000001,
1.3877787807814457e-16, 0.70000000000000001, 1.3877787807814457e-16, 1, 1,
0.50000000000000001, 1, 1.3877787807814457e-16, 1, 1, 1, 1]

t2 = [0.9, 0.200000000000000015, 0.100000000000000014, 1.0, 0.400000000000000013,
1.3877787807814457e-16, 0.70000000000000001, 1.3877787807814457e-16, 1, 1,
0.400000000000000013, 1, 1.3877787807814457e-16, 1, 1, 1, 1]

t3 = [0.9, 0.400000000000000013, 0.9, 1.3877787807814457e-16, 1.3877787807814457e-16,
0.50000000000000001, 0.8, 1, 1, 1, 0.60000000000000001, 1.3877787807814457e-16,
1.3877787807814457e-16, 1, 1, 1, 1]

t4 = [0.9, 0.200000000000000015, 1.3877787807814457e-16, 1.3877787807814457e-16, 1,
1.3877787807814457e-16, 1, 1, 1, 1, 0.8, 1, 1.3877787807814457e-16, 1, 1, 1, 1]

t5 = [0.9, 0.200000000000000015, 1.3877787807814457e-16, 0.100000000000000014,
0.50000000000000001, 1.3877787807814457e-16, 1.3877787807814457e-16,
1.3877787807814457e-16, 1, 1, 0.60000000000000001, 0.50000000000000001,
1.3877787807814457e-16, 1, 1, 1, 1]

t6 = [0.9, 0.200000000000000015, 0.100000000000000014, 1.3877787807814457e-16, 0.9, 1.0,
1.3877787807814457e-16, 1.3877787807814457e-16, 1, 1, 0.70000000000000001, 1,
1.3877787807814457e-16, 1, 1, 1, 1]

t7 = [0.9, 0.200000000000000015, 1.3877787807814457e-16, 0.300000000000000016,
0.50000000000000001, 1.0, 1.3877787807814457e-16, 1.3877787807814457e-16, 1, 1,
0.70000000000000001, 1, 1.3877787807814457e-16, 1, 1, 1, 1]

t8 = [0.9, 0.200000000000000015, 0.100000000000000014, 1.3877787807814457e-16, 0.9, 1.0,
1.3877787807814457e-16, 1.3877787807814457e-16, 1, 1, 0.70000000000000001, 1,
1.3877787807814457e-16, 1, 1, 1, 1]

t9 = [0.9, 0.200000000000000015, 0.100000000000000014, 1.3877787807814457e-16, 0.9, 1.0,
1.3877787807814457e-16, 1.3877787807814457e-16, 1, 1, 0.70000000000000001, 1,
1.3877787807814457e-16, 1, 1, 1, 1]

t10 = [0.9, 0.200000000000000015, 0.100000000000000014, 1.3877787807814457e-16, 0.9, 1.0,
1.3877787807814457e-16, 1.3877787807814457e-16, 1, 1, 0.70000000000000001, 1,
1.3877787807814457e-16, 1, 1, 1, 1]

平均值:

**mean_t = [0.90000000000000001, 0.220000000000000014, 0.150000000000000013,
0.230000000000000007, 0.65000000000000001, 0.55, 0.32, 0.2, 1, 1]**

Axis2/java

t1 = [1, 0.8, 0.300000000000000016, 1, 1, 1, 1, 1.3877787807814457e-16, 1, 1,
0.60000000000000001, 1, 1, 1, 1, 1, 1]

t2 = [0.8, 0.6000000000000001, 0.9, 1, 1, 1, 0.7000000000000001, 0.20000000000000015, 1, 1, 0.6000000000000001, 1, 1, 1, 1, 1]

t3 = [1, 0.8, 1.3877787807814457e-16, 0.10000000000000014, 0.40000000000000013, 0.7000000000000001, 0.7000000000000001, 1.3877787807814457e-16, 1, 1, 0.6000000000000001, 1, 1, 1, 1, 1]

t4 = [0.9, 0.6000000000000001, 0.6000000000000001, 0.5000000000000001, 1, 1, 1, 1.3877787807814457e-16, 1, 1, 0.6000000000000001, 1, 1, 1, 1, 1]

t5 = [1.0, 0.8, 1.3877787807814457e-16, 1.3877787807814457e-16, 1, 0.7000000000000001, 0.7000000000000001, 1.3877787807814457e-16, 1, 0.9, 0.10000000000000014, 1.3877787807814457e-16, 1.0, 1, 1, 1, 1]

t6 = [1, 0.8, 1.3877787807814457e-16, 1.3877787807814457e-16, 1, 1, 1, 1.3877787807814457e-16, 1, 1, 0.6000000000000001, 1, 1, 1, 1, 1]

t7 = [1, 0.8, 1.3877787807814457e-16, 1.3877787807814457e-16, 1, 1, 1, 1.3877787807814457e-16, 1, 1, 0.6000000000000001, 1, 1, 1, 1, 1]

t8 = [1, 0.8, 1.3877787807814457e-16, 0.40000000000000013, 1, 1, 1, 1.3877787807814457e-16, 1, 1, 0.6000000000000001, 1, 1, 1, 1, 1]

t9 = [1, 0.8, 1.3877787807814457e-16, 1.3877787807814457e-16, 1, 1, 1, 1.3877787807814457e-16, 1, 1, 0.6000000000000001, 1, 1, 1, 1, 1]

t10 = [1, 0.8, 1.3877787807814457e-16, 1.3877787807814457e-16, 1, 1, 1, 1.3877787807814457e-16, 1, 1, 0.6000000000000001, 1, 1, 1, 1, 1]

平均值:

mean_t = [0.97, 0.76, 0.1800000000000002, 0.3, 0.9400000000000001, 0.9400000000000001, 0.9100000000000001, 0.02000000000000014, 1, 0.99]

CXF:

t1 = [0.9, 0.7, 0.4, 1, 1, 0.1, 1, 0.5, 0.7, 0.8, 1, 1, 1, 1]

t2 = [0.6, 0.7, 0.3, 0.4, 0.7, 1, 0.0, 1, 1, 0.8, 0.7, 0.8, 1, 1, 1]

t3 = [0.7, 0.7, 0.3, 1, 0.7, 1, 0.0, 1, 1, 0.7, 0.9, 0.1, 1, 1, 1]

t4 = [0.9, 0.7, 0.4, 0.6, 0.7, 1, 0.0, 1, 1, 0.5, 0.7, 0.8, 1, 1, 1]

t5 = [0.6, 0.7, 0.7, 1, 1, 0.6, 0.0, 1, 1, 0.8, 0.7, 0.9, 1, 1, 1]

t6 = [0.9, 0.7000000000000001, 0.40000000000000013, 0.6000000000000001, 0.9, 1, 1.3877787807814457e-16, 0.10000000000000014, 1, 0.5000000000000001, 0.7000000000000001, 1.3877787807814457e-16, 0.8, 1, 1, 1, 1]

t7 = [1.0, 0.300000000000000016, 0.9, 1.3877787807814457e-16, 0.8, 1, 1.3877787807814457e-16, 0.100000000000000014, 1, 0.70000000000000001, 1, 1.3877787807814457e-16, 0.100000000000000014, 1, 1, 1, 1]

t8 = [0.9, 0.70000000000000001, 0.300000000000000016, 0.50000000000000001, 0.60000000000000001, 1, 1.3877787807814457e-16, 0.100000000000000014, 1, 0.50000000000000001, 0.70000000000000001, 1.3877787807814457e-16, 0.8, 1, 1, 1, 1]

t9 = [0.70000000000000001, 0.70000000000000001, 1.0, 1.3877787807814457e-16, 0.300000000000000016, 1, 0.400000000000000013, 0.100000000000000014, 1, 0.8, 0.70000000000000001, 1.3877787807814457e-16, 0.8, 1, 1, 1, 1]

t10 = [1.0, 0.50000000000000001, 0.50000000000000001, 0.8, 0.9, 0.50000000000000001, 1.3877787807814457e-16, 0.100000000000000014, 1, 0.60000000000000001, 0.70000000000000001, 0.400000000000000013, 0.8, 1, 1, 1, 1]

平均值:

mean_t = [0.82000000000000001, 0.64, 0.48000000000000001, 0.53, 0.76, 0.9099999999999999, 0.04000000000000007, 0.19000000000000009, 1, 0.64]

HadoopCommon:

t1 = [0.9, 0.70000000000000001, 1.3877787807814457e-16, 1.3877787807814457e-16, 0.9, 0.400000000000000013, 0.60000000000000001, 1.3877787807814457e-16, 0.400000000000000013, 1, 1, 0.50000000000000001, 0.200000000000000015, 1, 1, 1, 1]

t2 = [1, 0.50000000000000001, 0.200000000000000015, 1.0, 0.8, 0.400000000000000013, 0.60000000000000001, 1.3877787807814457e-16, 0.300000000000000016, 0.70000000000000001, 1, 0.400000000000000013, 0.300000000000000016, 1, 1, 1, 1]

t3 = [1, 0.60000000000000001, 0.8, 0.60000000000000001, 1.0, 1.3877787807814457e-16, 0.100000000000000014, 1.3877787807814457e-16, 0.300000000000000016, 0.8, 0.8, 0.100000000000000014, 0.100000000000000014, 1, 1, 1, 1]

t4 = [1, 0.70000000000000001, 0.9, 0.60000000000000001, 1.0, 1.3877787807814457e-16, 0.100000000000000014, 1.3877787807814457e-16, 1, 1, 0.8, 0.400000000000000013, 0.100000000000000014, 1, 1, 1, 1]

t5 = [1, 0.60000000000000001, 0.200000000000000015, 0.9, 1, 0.60000000000000001, 0.60000000000000001, 1.3877787807814457e-16, 1, 0.8, 1, 0.50000000000000001, 0.100000000000000014, 1, 1, 1, 1]

t6 = [0.9, 0.70000000000000001, 0.8, 0.9, 1, 0.400000000000000013, 0.60000000000000001, 1.3877787807814457e-16, 0.100000000000000014, 0.9, 0.9, 0.50000000000000001, 1.3877787807814457e-16, 1, 1, 1, 1]

t7 = [0.8, 0.70000000000000001, 0.100000000000000014, 0.8, 0.9, 0.300000000000000016, 0.50000000000000001, 1.3877787807814457e-16, 0.300000000000000016, 1, 1, 0.400000000000000013, 0.8, 1, 1, 1, 1]

t8 = [0.9, 0.6000000000000001, 0.9, 0.9, 1.0, 0.10000000000000014, 0.10000000000000014,
1.3877787807814457e-16, 0.30000000000000016, 0.8, 0.8, 0.40000000000000013,
0.20000000000000015, 1, 1, 1, 1]

t9 = [0.8, 0.7000000000000001, 1, 0.10000000000000014, 0.5000000000000001,
0.5000000000000001, 0.5000000000000001, 1.3877787807814457e-16, 0.10000000000000014, 1,
1, 0.6000000000000001, 1.3877787807814457e-16, 1, 1, 1, 1]

t10 = [0.7000000000000001, 0.6000000000000001, 0.10000000000000014, 0.8, 0.9,
0.30000000000000016, 0.5000000000000001, 1.3877787807814457e-16, 0.20000000000000015,
1, 1, 0.5000000000000001, 0.10000000000000014, 1, 1, 1, 1]

平均值:

**mean_t = [0.9, 0.6400000000000002, 0.5000000000000001, 0.66,
0.9000000000000001, 0.30000000000000016, 0.4200000000000001,
1.3877787807814457e-16, 0.4000000000000001, 0.9, 0.93, 0.43000000000000016,
0.19000000000000014, 1, 1, 1, 1]**

Hbase:

t1 = [1, 0.5000000000000001, 1.0, 0.30000000000000016, 1, 1.3877787807814457e-16,
0.10000000000000014, 1.3877787807814457e-16, 1, 0.7000000000000001, 0.5000000000000001,
0.10000000000000014, 0.5000000000000001, 1, 1, 1, 1]

t2 = [1, 0.7000000000000001, 1.0, 0.10000000000000014, 1, 1.3877787807814457e-16,
0.10000000000000014, 1.3877787807814457e-16, 1, 1, 0.40000000000000013,
0.10000000000000014, 0.20000000000000015, 1, 1, 1, 1]

t3 = [1, 0.6000000000000001, 0.6000000000000001, 0.9, 0.8, 1.3877787807814457e-16,
0.10000000000000014, 0.10000000000000014, 1, 0.6000000000000001,
1.3877787807814457e-16, 0.10000000000000014, 0.10000000000000014, 1, 1, 1, 1]

t4 = [1, 0.8, 1, 1.3877787807814457e-16, 1, 1.3877787807814457e-16, 0.10000000000000014,
0.10000000000000014, 1, 0.9, 0.8, 0.10000000000000014, 0.20000000000000015, 1, 1, 1, 1]

t5 = [1, 0.7000000000000001, 1, 1.0, 1, 1.3877787807814457e-16, 0.10000000000000014,
0.10000000000000014, 1, 1, 0.5000000000000001, 0.10000000000000014, 0.6000000000000001,
1, 1, 1, 1]

t6 = [1, 0.7000000000000001, 1, 0.30000000000000016, 0.9, 1.3877787807814457e-16,
0.20000000000000015, 0.10000000000000014, 1, 1, 0.5000000000000001,
0.10000000000000014, 0.6000000000000001, 1, 1, 1, 1]

t7 = [1, 0.6000000000000001, 1.0, 1.0, 1.0, 0.10000000000000014, 0.20000000000000015,
1.3877787807814457e-16, 1, 0.9, 0.5000000000000001, 0.10000000000000014,
0.7000000000000001, 1, 1, 1, 1]

t8 = [1, 0.7000000000000001, 0.20000000000000015, 0.30000000000000016, 1,
1.3877787807814457e-16, 0.10000000000000014, 1.3877787807814457e-16, 1, 1,
0.5000000000000001, 0.10000000000000014, 0.6000000000000001, 1, 1, 1, 1]

t9 = [1, 0.6000000000000001, 0.40000000000000013, 1.3877787807814457e-16, 1, 1.3877787807814457e-16, 0.10000000000000014, 1.3877787807814457e-16, 1, 0.9, 0.30000000000000016, 1.3877787807814457e-16, 0.6000000000000001, 1, 1, 1, 1]

t10 = [1, 0.7000000000000001, 0.7000000000000001, 1.3877787807814457e-16, 1, 1.3877787807814457e-16, 0.10000000000000014, 1.3877787807814457e-16, 1, 1, 0.40000000000000013, 0.20000000000000015, 0.10000000000000014, 1, 1, 1, 1]

平均值:

mean_t = [1, 0.6600000000000003, 0.79, 0.3900000000000001, 0.97, 0.010000000000000139, 0.12000000000000013, 0.04000000000000013, 1, 0.9, 0.4400000000000001, 0.10000000000000012, 0.4200000000000002, 1, 1, 1, 1]

第二阶段实验: API recommendation参数训练结果

CXF:

t1 = [0.10000000000000014, 0.9, 0.10000000000000014, 1, 0.10000000000000014]

t2 = [0.10000000000000014, 0.7000000000000001, 0.10000000000000014, 1, 0.10000000000000014]

t3 = [0.10000000000000014, 0.9, 0.10000000000000014, 1, 0.10000000000000014]

t4 = [0.10000000000000014, 0.9, 0.10000000000000014, 1, 0.10000000000000014]

t5 = [0.9, 0.10000000000000014, 0.10000000000000014, 1, 0.10000000000000014]

t6 = [0.10000000000000014, 0.9, 0.10000000000000014, 1, 0.30000000000000016]

t7 = [0.10000000000000014, 0.9, 0.20000000000000015, 1, 0.10000000000000014]

t8 = [0.10000000000000014, 0.5000000000000001, 0.10000000000000014, 1, 0.20000000000000015]

t9 = [0.10000000000000014, 0.9, 0.10000000000000014, 1, 0.10000000000000014]

t10 = [0.9, 0.10000000000000014, 0.10000000000000014, 1, 0.10000000000000014]

平均值:

mean_t = [0.2600000000000001, 0.6800000000000002, 0.11000000000000013, 1, 0.13000000000000014]

Struts:

t1 = [0.8, 0.10000000000000014, 0.10000000000000014, 0.5000000000000001, 0.9]

t2 = [0.8, 0.10000000000000014, 0.10000000000000014, 0.5000000000000001, 0.9]

t3 = [0.10000000000000014, 0.10000000000000014, 0.40000000000000013, 1, 0.10000000000000014]

t4 = [0.8, 0.100000000000000014, 0.100000000000000014, 0.200000000000000015, 0.9]

t5 = [0.8, 0.100000000000000014, 0.100000000000000014, 0.50000000000000001, 0.9]

t6 = [0.8, 0.100000000000000014, 0.100000000000000014, 0.50000000000000001, 0.9]

t7 = [0.8, 0.100000000000000014, 0.100000000000000014, 0.50000000000000001, 0.9]

t8 = [0.8, 0.100000000000000014, 0.100000000000000014, 0.50000000000000001, 0.9]

t9 = [0.8, 0.100000000000000014, 0.100000000000000014, 0.50000000000000001, 0.9]

t10 = [0.8, 0.100000000000000014, 0.100000000000000014, 0.50000000000000001, 0.9]

平均值:

mean_t = [0.7299999999999999, 0.10000000000000012, 0.13000000000000012, 0.52, 0.8200000000000001]

Hadoop:

t1 = [1.0, 0.100000000000000014, 0.100000000000000014, 1, 0.50000000000000001]

t2 = [1.0, 0.100000000000000014, 0.300000000000000016, 0.8, 0.200000000000000015]

t3 = [0.100000000000000014, 0.200000000000000015, 0.100000000000000014, 1, 0.100000000000000014]

t4 = [0.100000000000000014, 0.60000000000000001, 0.100000000000000014, 1, 0.200000000000000015]

t5 = [0.100000000000000014, 0.300000000000000016, 0.100000000000000014, 1, 0.400000000000000013]

t6 = [0.100000000000000014, 0.60000000000000001, 0.100000000000000014, 1, 0.200000000000000015]

t7 = [0.200000000000000015, 0.200000000000000015, 0.100000000000000014, 1, 0.100000000000000014]

t8 = [1.0, 0.100000000000000014, 0.100000000000000014, 1, 0.8]

t9 = [0.200000000000000015, 0.70000000000000001, 0.100000000000000014, 1, 0.200000000000000015]

t10 = [1.0, 0.100000000000000014, 0.100000000000000014, 1, 0.8]

平均值:

mean_t = [0.48000000000000001, 0.30000000000000016, 0.12000000000000001, 0.98000000000000001, 0.35000000000000001]

Hbase:

t1 = [0.8, 1.0, 0.100000000000000014, 1, 0.300000000000000016]

t2 = [0.200000000000000015, 0.100000000000000014, 0.100000000000000014, 1, 1]

t3 = [0.700000000000000001, 0.500000000000000001, 0.100000000000000014, 0.600000000000000001, 0.700000000000000001]

t4 = [0.100000000000000014, 0.300000000000000016, 0.100000000000000014, 1, 1.0]

t5 = [0.400000000000000013, 0.300000000000000016, 0.300000000000000016, 1, 1]

t6 = [0.8, 0.100000000000000014, 0.100000000000000014, 1, 0.300000000000000016]

t7 = [0.100000000000000014, 0.500000000000000001, 0.100000000000000014, 1, 1.0]

t8 = [1, 0.600000000000000001, 0.100000000000000014, 1, 1]

t9 = [1, 0.200000000000000015, 0.100000000000000014, 1, 0.300000000000000016]

t10 = [1, 0.600000000000000001, 0.100000000000000014, 1, 0.200000000000000015]

平均值:

mean_t = [0.61, 0.420000000000000001, 0.120000000000000013, 0.96, 0.6799999999999999]

Axis2:

t1 = [1, 0.100000000000000014, 0.100000000000000014, 1, 0.9]

t2 = [0.100000000000000014, 0.100000000000000014, 0.400000000000000013, 1, 0.100000000000000014]

t3 = [0.700000000000000001, 0.600000000000000001, 0.100000000000000014, 1, 0.200000000000000015]

t4 = [0.200000000000000015, 0.500000000000000001, 0.100000000000000014, 1, 0.300000000000000016]

t5 = [0.100000000000000014, 0.500000000000000001, 0.100000000000000014, 1, 0.300000000000000016]

t6 = [0.100000000000000014, 0.100000000000000014, 0.100000000000000014, 1, 0.100000000000000014]

t7 = [1.0, 0.100000000000000014, 0.100000000000000014, 1, 0.600000000000000001]

t8 = [1.0, 0.100000000000000014, 0.100000000000000014, 1, 0.600000000000000001]

t9 = [0.100000000000000014, 0.100000000000000014, 0.100000000000000014, 1, 0.100000000000000014]

```
t10 = [0.100000000000000014, 0.100000000000000014, 0.100000000000000014, 1,  
0.100000000000000014]
```

平均值:

```
mean_t = [0.44000000000000002, 0.230000000000000012, 0.13000000000000001, 1,  
0.33000000000000001]
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